

U. S. GEOLOGICAL SURVEY  
ANNUAL PEAK FLOW FREQUENCY ANALYSIS  
Following Bulletin 17-B Guidelines  
Program peakfq  
(Version 4.0, December, 2000)

Station - 05367700 LIGHTNING CREEK AT ALMENA, WI  
2002 MAR 13 09:02:55

I N P U T      D A T A      S U M M A R Y

Number of peaks in record	=	42
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	42
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.319
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	120.0
User supplied high outlier threshold	=	--
User supplied low outlier criterion	=	--
Plotting position parameter	=	0.00

\*\*\*\*\* NOTICE -- Preliminary machine computations. \*\*\*\*\*  
\*\*\*\*\* User responsible for assessment and interpretation. \*\*\*\*\*

WCF133I-SYSTEMATIC PEAKS BELOW GAGE BASE WERE NOTED.	3	120.0
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		96.1
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		2415.3

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE	LOGARITHMIC		
	EXCEEDANCE DISCHARGE	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	120.0	0.9286	2.6539	0.2791 -0.467
BULL.17B ESTIMATE	120.0	0.9286	2.6539	0.2791 -0.416

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

ANNUAL EXCEEDANCE PROBABILITY	BULL.17B ESTIMATE	SYSTEMATIC RECORD	'EXPECTED PROBABILITY'	95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES	
			ESTIMATE	LOWER	UPPER
0.9000	193.2	192.8	187.8	149.2	236.2
0.8000	266.9	267.6	263.3	216.2	318.0
0.5000	471.2	473.7	471.2	399.7	557.2
0.2000	780.9	781.3	788.9	654.5	967.4
0.1000	992.7	987.9	1012.0	816.3	1274.0
0.0400	1260.0	1244.0	1301.0	1012.0	1683.0
0.0200	1456.0	1429.0	1519.0	1150.0	1996.0
0.0100	1648.0	1608.0	1739.0	1283.0	2313.0
0.0050	1836.0	1782.0	1961.0	1411.0	2631.0
0.0020	2081.0	2004.0	2260.0	1573.0	3055.0
0.6667	354.9	( 1.50-year flood )			
0.4292	528.5	( 2.33-year flood )			

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I N P U T    D A T A    L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1958	100.0	L	1979	720.0	
1959	750.0		1980	530.0	
1960	1050.0		1981	120.0	L
1961	630.0		1982	780.0	
1962	550.0		1983	475.0	
1963	220.0		1984	405.0	
1964	130.0		1985	160.0	
1965	1200.0		1986	630.0	
1966	920.0		1988	200.0	
1967	1550.0		1989	615.0	
1968	640.0		1990	500.0	
1969	490.0		1991	750.0	
1970	1210.0		1992	350.0	
1971	1000.0		1993	185.0	
1972	690.0		1994	60.0	L
1973	650.0		1995	430.0	
1974	410.0		1996	395.0	
1975	570.0		1997	402.0	
1976	475.0		1998	288.0	
1977	350.0		1999	146.0	
1978	220.0		2000	447.0	

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1967	1550.0	0.0233	0.0233
1970	1210.0	0.0465	0.0465
1965	1200.0	0.0698	0.0698
1960	1050.0	0.0930	0.0930
1971	1000.0	0.1163	0.1163
1966	920.0	0.1395	0.1395
1982	780.0	0.1628	0.1628
1959	750.0	0.1860	0.1860
1991	750.0	0.2093	0.2093
1979	720.0	0.2326	0.2326
1972	690.0	0.2558	0.2558
1973	650.0	0.2791	0.2791
1968	640.0	0.3023	0.3023
1961	630.0	0.3256	0.3256
1986	630.0	0.3488	0.3488
1989	615.0	0.3721	0.3721
1975	570.0	0.3953	0.3953
1962	550.0	0.4186	0.4186
1980	530.0	0.4419	0.4419
1990	500.0	0.4651	0.4651
1969	490.0	0.4884	0.4884
1976	475.0	0.5116	0.5116
1983	475.0	0.5349	0.5349
2000	447.0	0.5581	0.5581
1995	430.0	0.5814	0.5814
1974	410.0	0.6047	0.6047
1984	405.0	0.6279	0.6279
1997	402.0	0.6512	0.6512
1996	395.0	0.6744	0.6744
1977	350.0	0.6977	0.6977
1992	350.0	0.7209	0.7209
1998	288.0	0.7442	0.7442
1963	220.0	0.7674	0.7674
1978	220.0	0.7907	0.7907
1988	200.0	0.8140	0.8140
1993	185.0	0.8372	0.8372
1985	160.0	0.8605	0.8605
1999	146.0	0.8837	0.8837
1964	130.0	0.9070	0.9070
1981	120.0	--	--
1958	100.0	--	--
1994	60.0	--	--

